WHAT IS CLAIMED IS:

1. A control module of a switching power supply (SPS) having normal and standby operation modes, the control module for controlling switch-on/off operations of a switching device of the SPS using a feedback voltage that is inversely proportional to an output voltage, the control module comprising:

a voltage set-up unit operable to provide a first voltage used for a switch-on operation of the switching device in response to changes in the feedback voltage and a second voltage used for a switch-off operation of the switching device in response to changes in the feedback voltage, in the standby operation mode; and

a switching control unit coupled to the voltage set-up unit and operable to generate a control signal, wherein the control signal is used to turn on the switching device when the first voltage is provided from the voltage set-up unit and wherein the control signal is used to turn off the switching device when the second voltage is provided from the voltage set-up unit.

2. The control module of claim 1, wherein the voltage set-up unit comprises:

a first current source;

a second current source;

a first comparator operable to compare the feedback voltage with a first or second feedback reference voltage and to generate an output signal based on a result of the comparison;

a second comparator operable to compare the feedback voltage with a third feedback reference voltage greater than the first or second feedback reference voltage and to generate an output signal based on a result of the comparison;

a transistor operable to be turned on or off in response to the output signal of the first comparator;

an RS flip-flop operable to receive the output signals of the first and second comparators at its S and R inputs, respectively, and to generate an output signal at its Q output; and

a first switch operable to selectively connect a collector of the transistor with the Q output of the RS flip-flop or the second current source, thereby allowing the voltage

set-up unit to generate the first voltage by controlling an amount of current supplied by the second current source even when the feedback voltage increases.

3. The control module of claim 2 further comprising first and second resistors connected at either side of a point at which the first voltage or the second voltage is applied according to an on or off state of the transistor or the switch-on and/or off operations of the first switch.

4. The control module of claim 2, wherein one end of the first resistor is connected to the collector of the transistor and another end of the first resistor is connected to the point at which the first voltage or the second voltage is applied, and one end of the second resistor is connected to the point at which the first voltage or the second voltage is applied and another end of the second resistor is connected to ground.

5. The control module of claim 4 further comprising first and second diodes sequentially disposed between a terminal to which the feedback voltage is applied and the collector of the transistor, wherein a cathode and an anode of the first diode are connected to the terminal to which the feedback voltage is applied and an anode of the second diode, respectively, and a cathode of the second diode is connected to the collector of the transistor.

6. The control module of claim 5 further comprising:

a second switch operable to selectively connect a connection point between the first and second diodes to either the first current source or the Q output of the RS flip-flop; and

a third switch operable to selectively connect a connection point between the terminal to which the feedback voltage is applied and the first diode to either the first current source or the Q output of the RS flip-flop.

7. The control module of claim 1, wherein the switching control unit comprises:

a third comparator operable to receive the first or second voltage from the voltage set-up unit at its inverting input and a sense voltage corresponding to a current

flowing through the switching device at its non-inverting input and to generate an input signal based on a result of the comparison;

a gate driver operable to generate the control signal used to turn on or off the switching device in response to the output signal of the third comparator; and

an oscillator operable to provide a control signal used to determine a duty cycle of the switching device to the gate driver.

8. A control module of a switching power supply (SPS) having normal and standby operation modes, the control module for controlling switch-on/off operations of a switching device using a feedback voltage that is inversely proportional to an output voltage, the control module comprising:

a first voltage supply means operable to supply a first voltage that is proportional to the feedback voltage, in response to a first control signal;

a second voltage supply means operable to supply a second voltage of a predetermined magnitude, in response to a second control signal;

a control signal generating means operable to generate the first control signal or the second control signal according to an amount of the feedback voltage;

a selector operable to receive and to output the first voltage or the second voltage; and

a switching control signal generating means operable to generate a switching control signal for the switching device in response to an output signal from the selector.

9. The control module of claim 8, wherein the first voltage supply means comprises:

a first current source;

a first diode disposed in a forward direction between the first current source and an input terminal for the feedback voltage;

a second diode disposed in a forward direction between the input terminal for the feedback voltage and the first current source;

a first transistor connected at its base to an anode of the second diode and connected at its emitter to the selector; and

a second transistor connected at its base to receive the first control signal, connected at its collector to the emitter of the first transistor, and connected at its emitter to ground.

10. The control module of claim 8, wherein the second voltage supply means comprises:

a second current source;

a third transistor having a base that is connected to the second static current source and an emitter as an output end that is connected to the selector; and

a fourth transistor having a base that receives the second control signal, a collector that is directly connected to the emitter of the second transistor, and an emitter that is grounded.

11. The control module of claim 8, wherein when the feedback voltage is smaller than a first feedback reference voltage, the control signal generating means operable to generate the first control signal and the second control signal so that a burst current limit mode operation can be performed, and wherein when the feedback voltage is smaller than a second feedback reference voltage, the control signal generating means generates the first control signal and the second control signal so that the switch-on/off operations of the switching device cannot be performed.

12. The control module of claim 11, wherein the control signal generating means comprises:

a first comparator operable to receive the feedback voltage through its non-inverting input and the first feedback reference voltage through its inverting input;

a second comparator operable to receive the feedback voltage through its inverting input and the second feedback reference voltage through its non-inverting input;

an inverter, which inverts an output of the first comparator and supplies the result of the inversion as the first control signal;

an RS flip-flop operable to receive an output of the first comparator at an S input and an output of the second comparator at an R input; and

an OR gate operable to receive the output of the first comparator and an output of the RS flip-flop, to perform an OR operation on the output of the first comparator

and the output of the RS flip-flop, and to supply the result of the OR operation as the second control signal.

13. The control module of claim 8, wherein the selector comprises a fifth transistor having a base to which the first voltage is applied and a sixth transistor having a base to which the second voltage is applied, wherein an emitter of the fifth transistor and an emitter of the sixth transistor are connected and used as an output of the control signal generating means.

14. The control module of claim 8, wherein the control signal generating means comprises:

a third comparator operable to receive the output signal of the selector at its inverting input and a sense voltage corresponding to a current flowing through the switching device at its non-inverting input;

a gate driver operable to generate on/off control signals for the switching device according to an output of the third comparator; and

an oscillator operable to supply a control signal for determining a switching duty of the switching device to the gate driver.